

A family of Balloons to study Earth atmosphere

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Every year CNES is launching around 40 balloons to study the atmosphere. For this purpose, a family of balloons was developed and is available. We have, in the stratospheric family, Zero Pressure Balloons allowing a wide range of missions in term of carried mass and flight profile, Infrared Montgolfieres allowing to flight several weeks between 18 (night) and 30 (day) km with 50 kg of payload and Super Pressure Balloons allowing to carry during several months at constant altitude (around 20 km) up to 50 kg of payload. The tropospheric family includes the Boundary Layer Super Pressure Balloon and the Aeroclipper flying over the sea to study the interaction between ocean and atmosphere.

The presentation will be focused on the characteristics of the balloons family and typical atmospheric missions will be described. In addition, information on past studies and tests on planetary balloons will be given.